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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,853	03/30/2004	Susanne A. Paul	SIL.P0076	3441

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT	PAPER NUMBER
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2817

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/812,853

Applicant(s)

PAUL ET AL.

Examiner

Michael B. Shingleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47-80 ^{47-49, 51-55 + 57-66} is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-80 ^{47-49, 51-55 + 57-66} is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9-28-2006
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 47-49, 51-55 and 57-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. 5,994,963 of record (Kawai) in view of Nalbant 6,763,114 (Nalbant), Meiksin et al. 6,370,396 (Meiksin) and Gerfault 5,453,717 (Gerfault).

Figures 1 and 2 and the relevant text of Kawai discloses a conventional portable telephone arrangement otherwise known as a cellular telephone (See column 1, around line 10). (Note that the term "cellular" merely refers to "a geographical area (as a city) is divided into small sections each served by a transmitter of limited range so that any available radio channel can be used in different parts of the area simultaneously". Thus being that every portable radiotelephone has limited range these phones can only operate in a limited cell or geographical area and thus are cellular in nature.) The arrangement of Kawai includes a transceiver 7, 8, an antenna 4 and an RF power amplifier 15. However, Kawai is silent on the details of the structure that makes up the power amplifier 15.

At least Figures 3 and 6B along with the relevant text of Nalbant discloses a CMOS based bridge amplifier device and method for operating the CMOS device. The device of Nalbant is primarily disclosed as being used for audio applications. However, this is merely one example of the intended use of Nalbant. The circuit of Nalbant also may be used in "applications requiring low power consumption and needing high power output". The power amplifier of Kawai is one such use requiring low power consumption (portable telephone) and high power output (transmit.). As shown in Figure 6B of Nalbant, two CMOS pairs of transistors are provided for thereby forming the bridge power amplifier structure as claimed. The first CMOS pair is composed of Q1 and Q4. The second CMOS pair is composed of transistors Q2 and Q3 as is clearly illustrated in Figure 6B of Nalbant. Figures 6A and 6B in combination in Nalbant clearly shows that these pairs of switching devices are connected between a "voltage differential". As recited in column 2, around line 9, the CMOS transistor pair Q1 and Q4 is turned on and off together as a unit. Such is also the case with the transistor pair Q2 and Q3. The switching of these pairs is done in an alternative manner, i.e. when Q1 and Q4 are "on" then the pair represented by Q2 and

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Q3 are off. Element 10 and the inductances L1-L4 form an inductance between the switching devices of each respective pair of switching devices. Depending on the use alternative loads could be used as disclosed by Nalbant.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the amplifier structure of Kawai with that of Nalbant because as the Kawai reference is silent on the exact structure of the amplifier "15" of Kawai one of ordinary skill in the art would have been motivated to use any art-recognized equivalent amplifier structure such as the one taught by Nalbant.

Meiksin discloses that a bridge type amplifier is used to power an antenna so as to enable the supply of high current into the antenna without the need for a high voltage. Gerfault is another reference that teaches the use of a bridge-type amplifier as power amplifier for RF application wherein that bridge amplifier is used to power an antenna of a wireless device. Note elements Q1-Q4 and "A" of Gerfault.

Meiksin and Gerfault clearly attests to the fact that bridge amplifiers are commonly used for the power amplifier for powering an antenna in a wireless device, i.e. they are an art-recognized equivalent means for the providing of a power amplifier that powers an antenna. Accordingly, these references Meiksin and Gerfault also provides further motivation to one of ordinary skill in the art to make the obvious combination mentioned above involving the replacement of the amplifier 15 of Kawai with bridge amplifier structure like that of Nalbant and that is so as to provide for an efficient amplifier to power the antenna as taught by Meiksin and Gerfault.

Claims 65 and 66 recites the only two possibilities for the conductivity the pairs of switching transistors. In Nalbant the first transistor Q1 is a p-channel device and the second transistor Q4 is an n-channel device and thus the subject matter of claim 66 is met. However, forming the exact opposite with the first being the n-channel and the second being the p-channel device with an opposite supply voltage (voltage differential) is a well-known art-recognized equivalent form of the circuit. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the first transistor from a n-channel and the second transistor from a p-channel since the examiner takes Official Notice of the equivalence of the use of the opposite conductivity types to form the circuit. In other words forming the circuit from an opposite conductivity is merely an art-recognized equivalent form of the circuit and accordingly the use of the opposite conductivity type for the circuit would have been obvious to one of ordinary skill in the art at the time of the invention was made. Note that art-recognized equivalence is a proper motivation. (See MPEP 2144.06, 2144.07 and 2144.03).

Response to Arguments

Applicant's arguments filed 10-03-2006 have been fully considered but they are not persuasive. Applicant's arguments are that Nalbant is not suitable for cellular telephone and that the prior art teaches away from the invention. The examiner respectfully disagrees. Bridge type amplifiers are well-known for their use in radio frequency circuits. Also efficient operating amplifiers would be a motivation to utilize such in a cellular telephone arrangement contrary to applicant's beliefs. The claims do not recite any specifics like frequency ranges, etc. and thus are broad. Care must be taken in not reading claims too narrowly and it appears that applicant maybe reading more into the claims than is actually present.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and after July 15, 2005 the fax number will be 571-273-8300. Note that old fax number (703-872-9306) will be service until September 15, 2005.

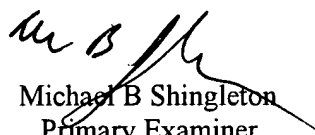
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

March 3, 2006

December 25, 2006



Michael B Shingleton
Primary Examiner
Group Art Unit 2817